

PATENT ABSTRACTS OF JAPAN

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(54) OXYGEN ENRICHING COMPOSITE MEMBRANE

(57)Abstract:

PURPOSE: To obtain a thin oxygen enriching membrane excellent in oxygen permeability and oxygen separating capacity by adding high silica zeolite to a polyorganosiloxane.

CONSTITUTION: A polymer membrane having an oxygen/nitrogen separation factor of 1.8 or more, an oxygen transmission coefficient of $1 \times 10-10 \text{cm}^3 \cdot \text{cm} / \text{cm}^2 \cdot \text{sec} \cdot \text{cmHg}$ or more and a thickness of $0.01-10 \mu\text{m}$ is formed to at least the single surface of a polyorganosiloxane membrane containing high silica zeolite (commercial 'Silicalite' is pref.). It is desirable to add 60-90wt.% of silica zeolite to the polyorganosiloxane membrane in usual and, by adding silica zeolite in this ratio, the PO₂ content of the polyorganosiloxane can be enhanced to several-ten several times as compared with that before silica zeolite is added. The thickness of the high silica zeolite-containing polyorganosiloxane membrane is usually $5-30 \mu\text{m}$. This oxygen enriching membrane is excellent in oxygen permeability and oxygen separating capacity.